**Electronic Supplementary Information (ESI) for:** 

## Preparation of water-dispersible TiO<sub>2</sub> nanoparticles from titanium tetrachloride using urea hydrogen peroxide as an oxygen donor

Naoko Watanabe,<sup>a</sup> Taichi Kaneko,<sup>a</sup> Yuko Uchimaru,<sup>b</sup> Sayaka Yanagida,<sup>c</sup> Atsuo Yasumori <sup>c</sup> and Yoshiyuki Sugahara <sup>a,d</sup>

 <sup>a</sup> Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University, Ohkubo-3, Shinjuku-ku, Tokyo 169-8555, Japan.
<sup>b</sup> National Institute of Advanced Industrial Science and Technology (AIST), Central 5, Higashi, Tsukuba, Ibaraki 305-8565, Japan
<sup>c</sup> Tokyo University of Science, Yamazaki-2641, Noda, Chiba 278-8510, Japan <sup>d</sup> Kagami Memorial Laboratory for Materials Science and Technology, Waseda University, Nishiwaseda-2, Shinjuku-ku, Tokyo, 169-0051, Japan

E-mail: ys6546@waseda.jp



Fig. S1 XRD pattern of  $TiO_2$ \_70h washed twice with ethanol (\*: NH<sub>4</sub>Cl).



Fig. S2 Carbon-13 CP/MAS NMR spectrum of TiO<sub>2</sub>\_30h.



**Fig. S3** Nitrogen adsorption-desorption isotherms of (a) TiO<sub>2</sub>\_30h, (b) TiO<sub>2</sub>\_42h, and (c) TiO<sub>2</sub>\_70h. (White circle: adsorption and black circle: desorption isotherm).



Fig. S4 TG curves of (a)  $TiO_2_42h$ , (b)  $TiO_2_70h$  and (c)  $TiO_2_30h$ .



Fig. S5 Photographs of water-dispersible (a)TiO<sub>2</sub>\_30h and (b)TiO<sub>2</sub>\_42h.



Fig. S6 UV-Vis spectra of  $TiO_2_30h$  and  $TiO_2_42h$ .